

What is claimed:

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1. A method of transforming a cell comprising the steps of:
applying a transformation effective amount of a nucleic acid to the cell;
applying a fibrin gel to the cell so as to entrap a transformation effective amount
of the nucleic acid; and
transforming the cell with the nucleic acid.
2. The method of claim 1, wherein the nucleic acid is applied in admixture
with a fibrin or fibrinogen composition that forms the fibrin gel.
3. A method of conducting gene therapy comprising:
conducting the steps of Claim 1; and
implanting the transformed cells into an animal.
4. The method of claim 3, wherein the cell to which the nucleic acid is
applied is a precursor of a more specialized cell type, and the method further comprises:
maturing the cell to the specialized cell type either *in vitro* or *in vivo* following
the implanting.
5. A method of conducting gene therapy comprising the steps of:
applying a transformation effective amount of a gene therapy effective nucleic
acid to a tissue;
applying a fibrin gel to the tissue so as to entrap a transformation effective
amount of the nucleic acid; and
transforming cells of the tissue with the nucleic acid.
6. The method of claim 5, further comprising:
surgically exposing the tissue to allow for the applying steps.
7. A method of conducting surgery on an animal comprising:
surgically exposing an internal tissue;

applying a transformation effective amount of a nucleic acid to a tissue;
applying a fibrin gel to the tissue so as to entrap a transformation effective
amount of the nucleic acid; and
transforming cells of the tissue with the nucleic acid,

- 5 wherein the nucleic acid encodes antigens or contains peptides that induce an antibody or
cytotoxic T lymphocyte response to infection by a pathogenic microbe.

8. The method of claim 7, wherein the nucleic acid encodes antigens or
contains peptides that induce an antibody or cytotoxic T lymphocyte response to
10 infection by a pathogenic microbe that is a member of the genus *Streptococcus*,
Staphylococcus, *Bordetella*, *Corynebacterium*, *Mycobacterium*, *Neisseria*, *Haemophilus*,
Actinomycetes, *Streptomyces*, *Nocardia*, *Enterobacter*, *Yersinia*, *Fancisella*, *Pasturella*,
Moraxella, *Acinetobacter*, *Erysipelothrix*, *Branhamella*, *Actinobacillus*, *Streptobacillus*,
Listeria, *Calymmatobacterium*, *Brucella*, *Bacillus*, *Clostridium*, *Treponema*, *Escherichia*,
15 *Salmonella*, *Kleibsiella*, *Vibrio*, *Proteus*, *Erwinia*, *Borrelia*, *Leptospira*, *Spirillum*,
Campylobacter, *Shigella*, *Legionella*, *Pseudomonas*, *Aeromonas*, *Rickettsia*, *Chlamydia*,
Borrelia, *Mycoplasma*, *Helicobacter*, *Saccharomyces*, *Kluveromyces*, *Candida*, or
Pneumocytis.

- 20 9. A kit comprising:
(a) a first composition for forming a fibrin gel comprising one of (i) fibrin
monomer, (ii) fibrinogen or another fibrin precursor or (ii) a fibrin-analog;
(b) a second composition for forming a fibrin gel comprising (1), where the first
composition is pursuant to (i), an agent that reverses the conditions which
25 stabilize fibrin as the monomer, (2), where the first composition is
pursuant to (ii), an agent that converts the fibrinogen or fibrin-precursor to
fibrin or (3), where the first composition is pursuant to (iii), a
fibrin-related molecule that forms a gel with the fibrin-analog; and
(c) composed separately in a third composition or incorporated into the first or
30 second composition, a gene therapy effective amount of nucleic acid,

wherein the fibrin gel formed of the first and second compositions is effective to entrap the nucleic acid in the vicinity of a cell or tissue.

10. The kit of claim 9, wherein the nucleic acid is composed with a separate
5 adjuvant for increasing the efficacy with which the nucleic acid transforms or transfects cells.

11. A method of conducting gene therapy comprising:
transforming or transfecting cells with a nucleic acid to create recombinant cells;
10 implanting the recombinant cells into an animal; and
applying a fibrin gel to entrap recombinant cells at a desired location within the animal.

12. The method of claim 11, further comprising:
15 surgically exposing the tissue to allow for the implanting and applying steps.

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